

## Claims

1. Torsionally flexible shaft coupling (10) comprising
  - a centrally disposed universal joint (12), which has
  - 5 a first and a second substantially rigid joint body (14, 28),
  - a rim (40), disposed around the universal joint (12), of loop-shaped flexible coupling elements (42), which are each looped around one first moulded piece
  - 10 (50) and one second moulded piece (52), wherein
  - the first moulded pieces (50) are connected substantially rigidly to the first joint body (14) and disposed between second moulded pieces (52), and
  - the joint bodies (14, 28) as well as the coupling
  - 15 elements (42) are disposed substantially rotationally symmetrically in relation to a common joint axis (A) as well as substantially symmetrically in relation to a common centre plane (B) normal to the joint axis (A) and are arranged in line for the transmission of
  - 20 torques,
  - characterized in that
  - the first joint body (14) has a first flange (22), to which the first moulded pieces (50) are firmly connected and from which they extend parallel to the
  - 25 joint axis (A),
  - the second moulded pieces (52) are firmly connected to a counter-flange (34) and extend from it parallel to the joint axis (A),
  - the counter-flange (34) forms part of a rotational
  - 30 body (62), which forms one end of a torque transmission chain, the other end of which is the second joint body (28), and

- the first joint body (14) comprises a tubular piece (16), which encloses the second joint body (28) and has an outer lateral surface (18) of circular cross section, against which the flexible coupling elements (42) are supported in radial direction.

2. Shaft coupling according to claim 1, characterized in that the flexible coupling elements (42) are supported in the region of the second moulded pieces (52) in each case via a sliding block (60) against the lateral surface (18) of the tubular piece (16) of the first joint body (14).

3. Shaft coupling according to claim 1 or 2, characterized in that the tubular piece (16) on its inner side has races (20) for rolling bodies (30), which form part of the universal joint (12) in the form of a multipod- or constant-velocity joint.

4. Shaft coupling according to one of claims 1 to 3, characterized in that around the tubular piece (16) of the first joint body (14) at least six coupling elements (42) are disposed successively in peripheral direction.

5. Shaft coupling according to one of claims 1 to 4, characterized in that

- the first moulded pieces (50) are disposed on the first flange (22) and the second moulded pieces (52) are disposed on the counter-flange (34), in each case in pairs, and
- each moulded piece (50, 52) is connected only to a

single other moulded piece (52, 50) by a flexible coupling element (42), so that  
- all of the coupling elements (42) are interlinked without overlapping.

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6. Shaft coupling according to claim 5, characterized in that

- the first moulded pieces (50) are fastened in each case between two first covers (56) and the second  
10 moulded pieces (52) are fastened in each case between two second covers (58) to the associated flange (22, 34), wherein

- all of the covers (56, 58) are disposed parallel to the centre plane (B), and

15 - paired covers (56, 58) are at identical distances (d) from the centre plane (B).

7. Shaft coupling according to claim 5,

characterized in that each pair of first moulded  
20 pieces (50) forms a U-shaped first bracket (84), and each pair of second moulded pieces (52) forms a U-shaped second bracket (86).

8. Shaft coupling according to claim 7,

25 characterized in that each of the moulded pieces (50, 52) has a threaded hole (88) for fastening to the associated flange (22) and/or counter-flange (34).

9. Shaft coupling according to one of claims 1 to 8,

30 characterized in that the first flange (22) and the counter-flange (34) have ring-sector-shaped cutouts (26, 38), of which the cutouts (26) of the first

flange (22) are offset by an angle of rotation from the cutouts (38) of the counter-flange (34).

10. Shaft coupling according to claim 9,  
5 characterized in that the first flange (22) engages with rotational play into the cutouts (38) of the counter-flange (34), and vice versa, so that both flanges (22, 34) lie in a common plane.